

## dp/p-3300 LINE/PRINTER

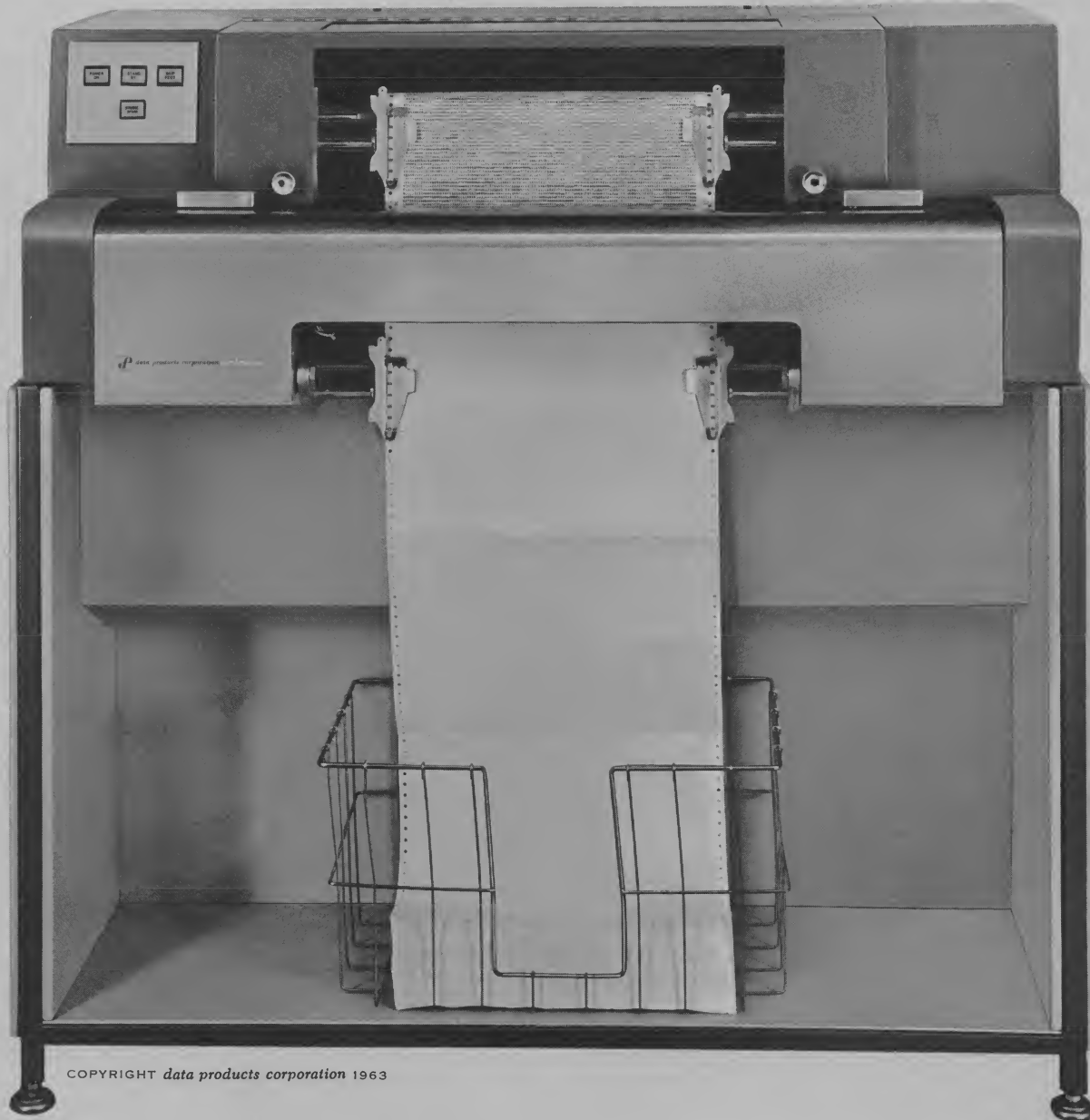
The 300 line-per-minute LINE/PRINTER represents a significant advance over equipment previously used to print the output from digital data processing systems.

The dp/p-3300 LINE/PRINTER provides reliability and economy of operation never before experienced in output printers. The system contains a hammer mechanism that eliminates all friction points, pivot mechanisms and adjustment devices. The paper feed system has an extremely smooth start-feed-stop motion, without using troublesome clutches, brakes, dogs, springs and other mechanisms normally employed in similar systems. No adjustments are required or necessary regardless of paper weight or number of form parts being used.

These two features, plus several others, result in a very simple, low-cost, high reliability, print system for use in digital data handling systems.

An instantaneous printing speed of 360 lines per minute and an effective rate of 300 lines per minute make the LINE/PRINTER suitable for use as an on-line computer printer, message receiver, date logger, page printer, communication printer and for other data recording applications requiring coherent and/or symbolic message writing.

The LINE/PRINTER has been designed with interfaces flexible enough to permit direct connection to most data processing systems with little or any black box required.



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dp/p-3300 LINE/PRINTER

data products corporation

## General

The Data Products Corporation LINE/PRINTER is available in several interface configurations and special interfaces can be provided on request. The two most commonly used (factory standard) interface arrangements are described in this brochure.

The LINE/PRINTER has been designed to enable the most efficient, forms production of any impact printing system ever offered to the Data Industries. All of the features that are necessary for loading and alignment of pre-printed forms, and other specially designed forms have been provided.

The unique design concepts used in this system permit Data Products Corporation to offer a system that is not affected by normal changes in operating temperatures and humidity. The printer will accept and print on all standard form weights and number of copies (up to six) without adjustment.

As a result of these engineering refinements Data Products Corporation has been able to carry the operation of the system to its greatest simplicity. All operating adjustment knobs have been eliminated. The only control knobs found on the machine are for vertical form alignment, horizontal form alignment, and paper tension.

A four tractor system coupled with a digital paper motion system insures, predictable, hour after hour printing quality and gentle forms handling. The print ribbon is a one inch wide tabulating type, that is skewed horizontally across the print drum, and may be replaced in less than one minute at a cost,  $\frac{1}{3}$  of that experienced in other systems.

**Maintenance Features** — Elimination of all adjustment controls, the use of derated solid state electronics and plug-in mechanical assemblies have reduced preventative maintenance time to the barest minimum. This approach has been carried even further by careful arrangement of all elements and the placement of all electronic components in a swing out gate that permits replacement of a circuit card in less than one minute. A maintenance panel on the electronics gate permits immediate monitoring and margining of all power supplies. An auxiliary Preventative Maintenance Panel is available as an optional extra to permit maintenance personnel to check out and operate a printer while connected to or disconnected from other equipment without disrupting computer work-in-process. A unique print drum design makes possible a 15 minute change of drum assemblies allowing several character and code sets to be used on the same machine. The LINE/PRINTER contains various interlocks to prevent input of data if the printer is in an inoperable condition and an "out of forms" stop switch is included as standard equipment.



**1. Electronics Gate /** This view of the LINE/PRINTER, with back cover removed, illustrates the easy accessibility to all electronic elements. The swing out gate permits access to both sides of all card cages and power supplies. The open space in the bottom left of the gate holds the buffer in buffered models.

**2. Control Panel /** This unit contains all of the operator controls except forms alignment knobs. The controls are all high quality push buttons that are illuminated to show operational status.

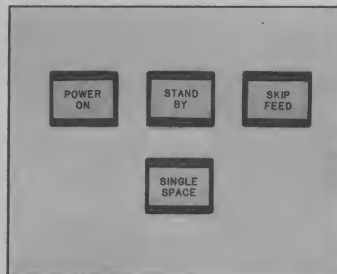
**3. Maintenance Test Panel /** This panel is standard with every unit and is mounted on the top surface of the electronics gate. Marginal checking of all LINE/PRINTER power sources can be accomplished in a matter of seconds through use of the panel meter and switches.

**4. Paper Loading /** Paper loading is accomplished from the front of the machine with the drum gate swung forward. This permits easy access to all four tractors for forms set up in loading. The complete hammer bank is visible in the center of the photo.

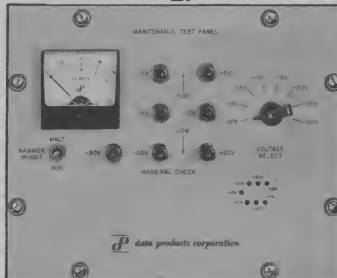
**5. Ribbon Drive System /** The photo shows the complete ribbon system including torque motors, reversing mechanism, guide pins and spool mounting. A complete ribbon change can be made in 15 seconds, without tools or special skills of any kind.



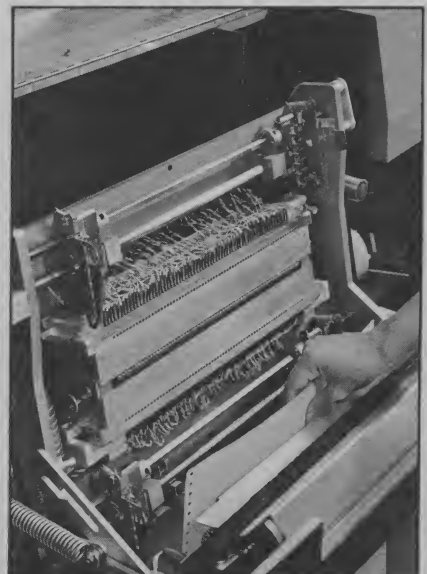
1.



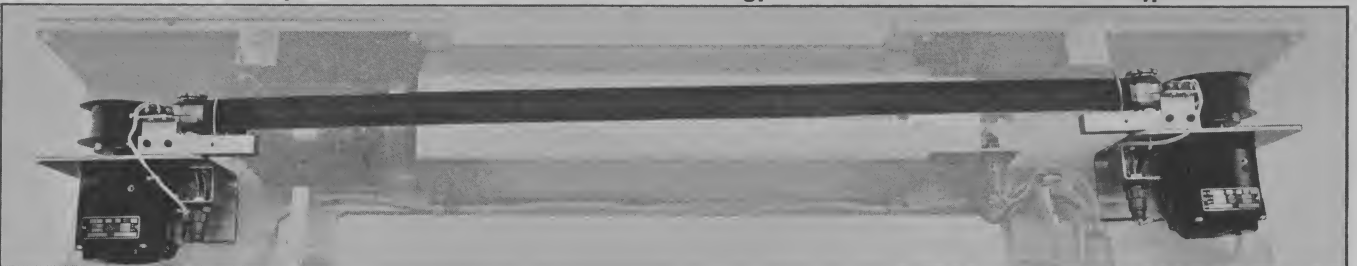
2.



3.



4.



5.

## Operation

**Serial Interface** —As the next character on the print drum approaches the printing position, the optical character code disc alerts the system through a 6-bit code that the approaching character will soon be ready for printing. A parity line is provided to ensure that the code is correct, using even or odd techniques. An Input Request line indicates when this code with parity is established. The Input Request line also defines to the external equipment the two millisecond period (Hammer Address Transfer Time) during which the external equipment must examine its' storage and transfer all hammer addresses and Intend to Print signals for those positions that should print the approaching character.

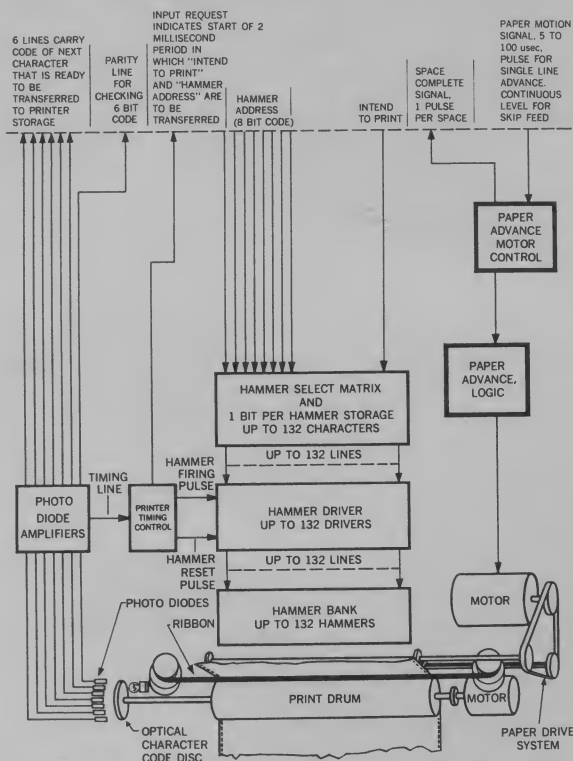
The external equipment during this two millisecond period transfers the hammer addresses to the hammer select matrix using an 8-bit binary code. The 8-bit hammer addresses may be transferred to the hammer select matrix in any sequence desired. An "Intend to Print" signal must accompany those hammer addresses where the character is to be printed; therefore making it unnecessary to externally gate hammer addresses.

The 8-bit code and Intend to Print signals enter the hammer select matrix, are translated and transferred to a 1-bit per hammer storage.

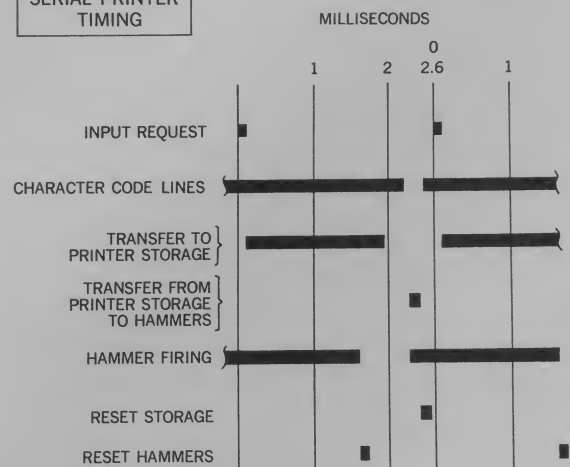
At the appropriate time following Hammer Address Transfer Time, the Timing line from the optical character code disc, through the printer timing control, will provide the hammer firing pulse to the hammer drivers and thus to the hammers themselves causing printing to occur at the properly selected positions.

Paper advance is initiated by the external equipment which furnishes to the Paper Advance Motor Control a Paper Motion signal. One pulse gives single line advance and a continuous level gives skip feed. Each line advance of the paper is reported to the external equipment by a Space Complete Signal, whether on a single line advance or skip feed mode.

BLOCK DIAGRAM SERIAL INTERFACE



SERIAL PRINTER TIMING



Transfer to Printer Storage of Hammer Address & Intend to Print

Transfer Period Per Address Min. 3 Microseconds  
Max. 15 Microseconds for 132 Characters  
Longer for Fewer Characters

**Buffered Interface**—The one line buffer stores a character at a time at any rate up to 125 KC or 8 microseconds per character. It has the capacity to store one full line of characters to be printed. The interface signal levels are identical to those described for other modes of operation with the selection of magnitude and direction of voltage swing and reference level selectable from the table in this brochure.

The "Send Data Line" indicates by a level that the LINE/PRINTER is available for data to be transferred. The "Paper Space" instruction is first sent to the printer. While the instruction is being operated on, data is presented to the input data register serially by character. A strobe pulse must accompany each character indicating that the data lines are settled. The strobes should have a rise and fall time of  $\frac{1}{2}$  microsecond or less and should have a flat top of one microsecond or more. The "Send Data" level will go to the false state after each character is received and will return to the true state 8 microseconds later indicating that the next character can be sent.

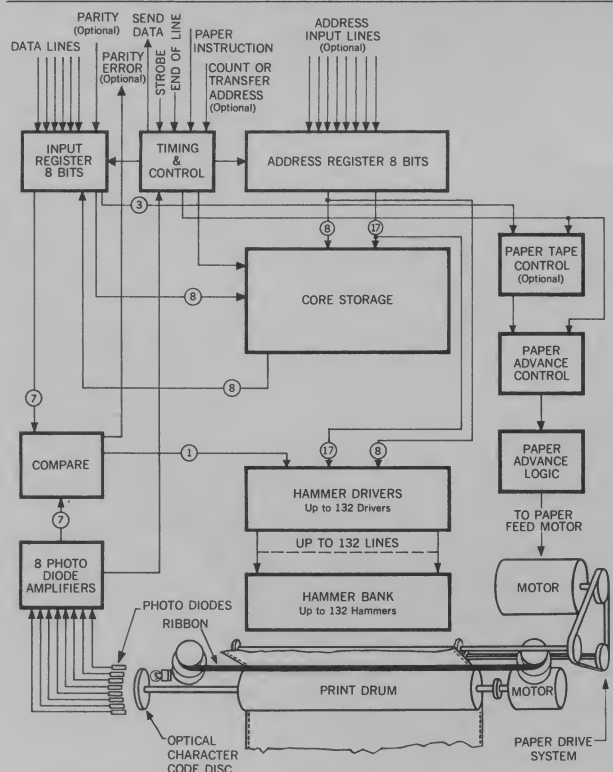
After each character is strobed into the input register, it is automatically stored in the next sequential location of the core storage. If positions are to be left blank between characters to be printed, the character code selected for "blank" should be transmitted at the appropriate times.

After all data for one line has been transferred, an "End of Line" signal is sent to the printer. The printer then returns a "Busy" level on the "Send Data" line until the "Paper Space" instruction has been acted upon and that line of data has been printed.

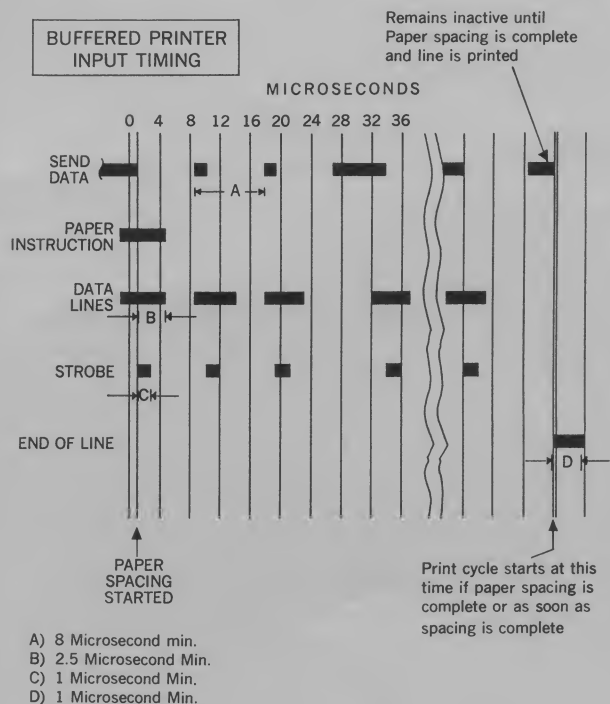
The buffer is then automatically scanned at each character row as the print drum rotates and appropriate hammer drivers are activated when a comparison is reached between the stored characters and the drum position as indicated by the code wheel.

As each character is stored in the buffer, an additional control bit is stored. As the characters are then compared and printed, the control bit is removed. When all characters have been printed, all control bits will have been removed. The timing and control section then automatically transmits the "Send Data" level. The external device then sends another "Paper Space" instruction followed by the next line of data. Paper spacing is started under control of the Paper Advance System while the data is being transferred. Printing is inhibited until the paper spacing is complete. If the Paper Tape Format Control option is not selected, the paper will be automatically advanced one space after each line is printed or the Paper Space Control lines can be brought out for external control as with the serial interface.

**BLOCK DIAGRAM BUFFER INTERFACE**



**BUFFERED PRINTER INPUT TIMING**



Data and paper instruction lines must be established by the start of the strobe and remain established for 2.5 microseconds Min. after leading edge of strobe

## Optional Features (available at extra cost)

**Paper Tape Format Control**—This feature is available with any interface arrangement and consists of an eight channel paper tape reader that accepts a paper loop up to 22 inches in length. This feature puts form feeding under the control of the paper tape loop.

Paper Tape Format Control is of particular advantage when many repetitive forms are to be printed.

The eight channel arrangement permits up to 8 separate stops to be made on the same form.

**Preventive Maintenance Control Panel**—This optional extra fits on the electronics gate and gives maintenance and systems test personnel the ability to completely check out printer operation whether the unit is connected to the computing equipment or not. Use of the Panel for checkout does not interrupt the computer.

In Serial Interface Systems the panel controls permit the printing of a single character in any column or the printing of a selected character in all columns simultaneously.

In Buffered Interface Printers the control panel provides for selecting characters and entering them into the buffer sequentially for printing any desired pattern. One selected character can be printed simultaneously in all print locations.

**Parity Checking** *(buffer interface only)*—A parity bit is transmitted with each data character on a seventh line. Parity bits are stored in the buffer with their associated characters. As the buffer is read out during the print cycle each character is compared against the output from the code wheel. When a comparison is reached the parity of the character is checked against the parity channel of the code disc. If a parity error is recognized, a signal is sent to the external device indicating that an error has occurred.

Printing is terminated prior to the character in error being printed and the send data level is established. It is then possible for the sending device to retransmit that line. The error line is cleared with the transmission of the first character following the error.

**Address Transfer** *(buffer interface)*—The standard buffer interface provides for storing each character sequentially in the core buffer. The address transfer option provides for storing incoming characters in any desired order giving very flexible horizontal format control. One line, "Count or Transfer Address," is provided to allow the buffer to store either under control of the internal counter or to transfer the address of the character from the external device on the address input lines. When the control line is at the count level, the character entered will be stored at the next sequential location. When the line is at the transfer level the address input lines will be sampled for the selection of the address of the character being transferred at that time. The same strobe that is used to enter a character to be printed is used to enter the address of that character, if at the transfer level.

INPUT AND OUTPUT SIGNAL LEVELS (Outputs can be either positive true or negative true)

| Standard Input Signal Levels | Output Signal Levels            | Internal Voltage Reference<br>A |             | Customer Signal<br>Ground Connected to |
|------------------------------|---------------------------------|---------------------------------|-------------|--|
| 0 to -10 volts               | 0 to -10 volts<br>0 to -5 volts | -5v<br>-5v                      | -10v<br>-5v | Printer ground<br>Printer ground       |
| 0 to +10 volts               | 0 to +10 volts<br>0 to +5 volts | -5v<br>-5v                      | -10v<br>-5v | Printer -10v<br>Printer -10v           |
| +5 to -5 volts               | +5 to -5 volts<br>0 to +5 volts | -5v<br>-5v                      | -10v<br>-5v | Printer -5v<br>Printer -5v             |
| Optionally Available         |                                 |                                 |             |  |
| 0 to -5 volts                | 0 to -5 volts                   | -2.5v                           | -5v         | Printer ground                         |
| 0 to +5 volts                | 0 to +5 volts                   | -2.5v                           | -5v         | Printer -5                             |
| -2.5 to +2.5                 | -2.5 to +2.5v                   | -2.5v                           | -5v         | Printer -2.5                           |



## Signals and Commands

### Input Lines to Printer

### BUFFER INTERFACE Output Lines from Printer

### Input Lines to Printer

**Character Code Lines (6)** *These lines carry the binary code for the next character available for printing. The active state for code indication is nominally two milliseconds.*

**Parity Line (1)** *This line carries parity for the Character Code Lines. Odd or even parity may be selected. The timing and electronic characteristics are the same as the Character Code Lines.*

**Input Request Line (1)** *This signal is active for two milliseconds defining the Hammer Address Transfer Time interval. The Character Code lines are available during this two millisecond time interval and all of the hammer addresses must be transferred before the end of the interval for proper operation.*

**Space Complete Line (1)** *This signal is active for a minimum of ten microseconds when the paper has advanced 1/6 inch. This occurs once per single space advance and at the end of each 1/6 inch advance during skip feed.*

**Hammer Address Lines (8)** *These lines carry the binary code used to select one of a possible 132 hammer positions. The minimum duration of the active signal is two microseconds. The maximum duration is determined by the number of hammer addresses to be transferred during the hammer address transfer time interval of two milliseconds.*

**Intend to Print Line (1)** *This line accompanies the Hammer Address at those hammer positions where a character is to be printed. This signal must occur while the hammer addresses are established and has a minimum duration of one microsecond. The Hammer Address Lines must have been active for one microsecond before the one microsecond period can begin.*

**Paper Motion Line (1)** *This line causes paper to move. A five to 100 microsecond signal causes the paper to advance 1/6 inch. A continued active signal causes the paper to skip feed. If the Paper Motion Signal is deactivated within 10 microseconds after receipt of a Space Complete signal, the paper motion will stop at the position indicated by the Space Complete signal.*

**Send Data (1)** *A level established on this line indicates to the external equipment that the printer is available to receive data. After each character is received, it switches to the busy level for 8 microseconds. It then returns to the Send Data condition until another character is received. After the End of Line signal is received it is switched to the busy level where it remains until that line has been printed.*

**Data Lines (6)** *These lines carry the binary codes of the characters to be printed, and/or the paper space instruction (Paper Tape Format Control Option).*

**Strobe (1)** *A pulse indicating that the data lines are settled and thus the data may be entered into the buffer or the Paper Space instruction (Paper Tape Format Control Option) may be entered into the Paper Space Control.*

**End of Line (1)** *A pulse that follows the last character of a line of characters indicating that all of the information to be printed on that line has been sent. The End of Line feature permits lines of any length, up to capacity, to be printed without the necessity of filling by sending blanks.*

**Paper Instruction (1)** *A level used by the printer to indicate that the character being received on the Data Lines is a Paper Motion Instruction (Paper Tape Format Control Option).*

# Specifications

## Printer

Lines per minute • 360, instantaneous—300, effective (includes paper space)  
 Characters per line • 132 maximum. Available in 12, 24, 36, 48, 60, 72, 84, 96, 108, 120, and 132 column versions  
 Characters per inch • 10  
 Maximum Available Number of Characters per Print Drum Revolution • 64  
 Drum Speed • 360 rpm  
 Paper Line Advance Time • 30 milliseconds maximum from initiation of motion command to paper stop  
 Paper Skip Feed • 20 inches per second, nominal  
 Ribbon • One inch wide, tabulator type, horizontally fed (skewed)  
 Character Synchronization and Timing • Provided by eight channel optical code disc system  
 Paper Feed • Tractor type, using a pair of tractors above and below the print position  
 Paper Format •  $17\frac{25}{32}$  inches maximum width, prints on 13.2 inch width in the center of a  $17\frac{25}{32}$  inch form. Forms of less width may be positioned within maximum  $17\frac{25}{32}$  inch feed area  
 Paper Dimensions • Any standard ( $\frac{1}{2}$ " hole centers) edge punched fan fold paper can be used from 3.5 to  $17\frac{25}{32}$  inches in width and up to 22 inches in form length  
 Print Area • Up to 13.2 inches wide located in the center of the  $17\frac{25}{32}$  inch feed area  
 Line to Line Spacing • 0.167 inches  $\pm 0.015$  inch; 6 lines per inch  
 Horizontal Alignment • Manual controls allow for positioning paper any place within  $17\frac{25}{32}$  inch feed area. Vernier controls are provided for adjustment of up to plus or minus one character while operating  
 Vertical Alignment • Manual control of up to plus or minus one line while operating  
 Paper Loading • Print drum housing pivots forward, paper is drawn upward through a large opening between the drum housing and the hammer bank  
 Paper Capability • Up to six parts, 12 lb. bond with "single shot" carbon, or on a tabulating card (0.007 inches) plus a second record sheet. Single copy minimum paper weight 15 lb. bond  
 Character Type • An open face, Gothic style, special *data products corporation* font is used. Print drum is interchangeable. Each character is 0.100 inches high nominal and 0.065 inches wide nominal  
 Character Spacing • Horizontal character spacing shall be  $0.100 \pm 0.005$  inch between centers. The maximum accumulative error from nominal horizontal spacing as listed above shall be no more than  $\pm 0.010$  inch per 132 character line  
 Line Straightness • From a straight line drawn parallel to the line of character, no character will deviate more than  $\pm 0.010$  inches from the reference distance to the straight line  
 Power • 115 volts, a.c.  $\pm 10\%$ , 60 cps  $\pm 1$  cycle, single phase, 750 watts  
 Weight • 650 lbs. w/shipping pallet 700 lbs.  
 Cabinet Size—Height 47 inches  
 Width 47.5 inches  
 Depth 24.5 inches  
 Cabinet Color • Normally furnished in *data products corporation* Blue & Gray Special colors at additional cost  
 Operating Environment • Maximum temperature  $100^{\circ}\text{F}$ , minimum temperature  $50^{\circ}\text{F}$ , maximum relative humidity 80%, minimum relative humidity 20%  
 Non-Operating Environment • Maximum temperature  $125^{\circ}\text{F}$ , minimum temperature  $0^{\circ}\text{F}$ , maximum relative humidity 95%

## Buffer

Storage Capacity • One line of characters equal to the number of columns selected  
 Input Speed • Asynchronous to 125 KC  
 Signal Lines  
 Data Lines (6) Strobe  
 Send Data End of Line  
 Paper Instruction Parity (optional)  
 Count or transfer address line and address input lines, up to 8 (optional)  
 Input Character Register • Accepts one character at a time, including parity if option is selected



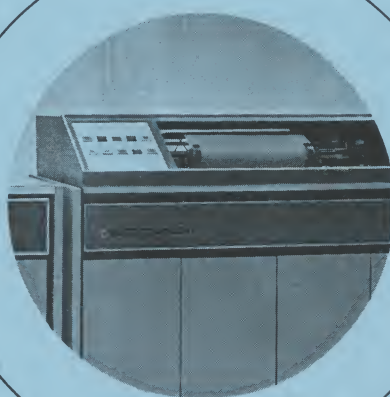
**data products corporation**

8535 WARNER DRIVE/CULVER CITY/CALIFORNIA





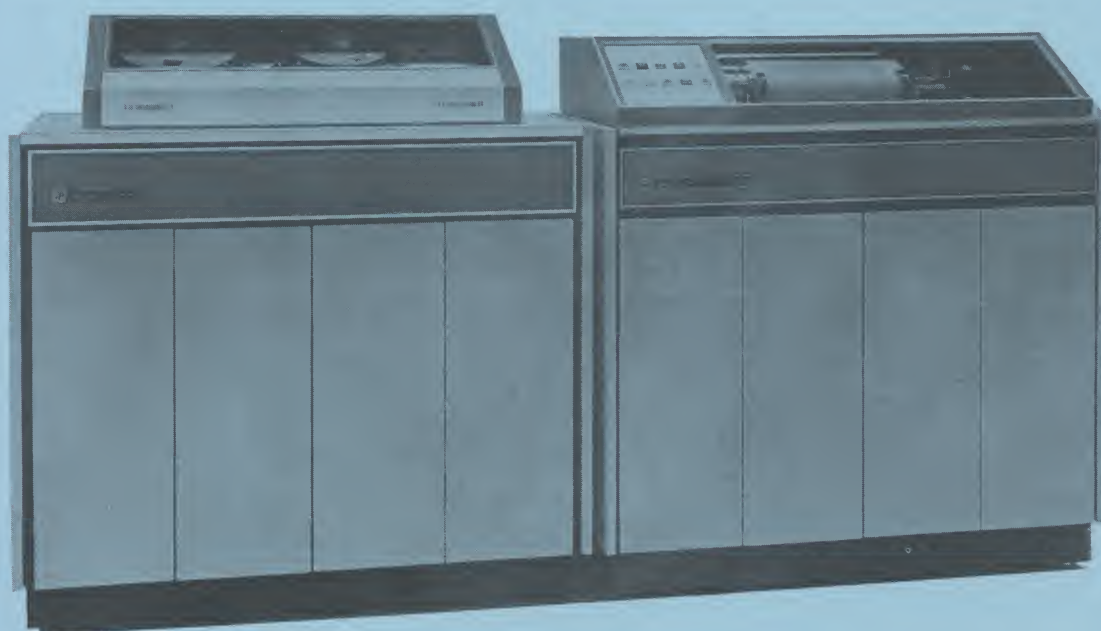
OFF-LINE MAGNETIC TAPE AND  
PAPER TAPE LINE/PRINTER STATIONS



*data products corporation*

# WHY USE A \$300,000 COMPUTER FOR PRINTING WHEN A FULL SCALE MAGNETIC TAPE LINE/PRINTER RENTS FOR ONLY \$1080 PER MONTH?

Simply load your reel of tape and the printed output is there. No need to use the computer. The system is complete—includes tape transport; controls and buffer memory; and the LINE/PRINTER.



The system features:

LOW COST • UNEXCELLED PRINT QUALITY • OPTICAL CHARACTER READING • UPPER AND LOWER CASE • PERSONALIZED LETTERS • PRECISE IMPRESSIONS • STRAIGHT LINES • CATALOGING • QUIET • RELIABLE • EASY TO OPERATE • MAGNETIC TAPE • PAPER TAPE • ANY TAPE FORMAT • FULLY IBM COMPATIBLE • 360-600-1000 LINES/MINUTE • 64-96-128 CHARACTER SETS • UP TO SIX PART FORMS • CARD STOCK • MULTI-LINE BUFFERS • HORIZONTAL TAB • FORMS CONTROL • HIGH DATA THROUGHPUT • NATIONWIDE CUSTOMER SERVICE • BUY • LEASE • RENT

Words, Words, Words... If you don't have time to listen to our sales pitch... Ask *Time-Life*, *Colgate*, *Friden*, *New Era Data Systems*, *EDP Systems*, *Collins Radio*, *Texas Instruments*, the U.S. Air Force, the University of California, or the U.S. Navy about their experience with Data Products LINE/PRINTERS.

Just **look** at the copy from any of the LINE/PRINTERS now in daily use. Compare and then you do the talking, we'll listen.



MAGNETIC TAPE TO LINE/PRINTER  
OFF-LINE PRINTING STATION  
SUMMARY OF CHARACTERISTICS

**SPEEDS** Model M360 —360 lines per minute  
Model M600 —600 lines per minute  
Model M1000—1000 lines per minute

**PRINT CHARACTERS.** Standard print font and character sets available, including FORTRAN set, IBM 1400 series, and upper and lower case combinations; other character sets optional.

**PRINT QUALITY.** Suitable for personalized letters and for optical reading applications.

**CHARACTERS PER LINE.** Standard 120 or 132 (84, 96, 108 optional).

**HORIZONTAL SPACING.** Ten characters per inch.

**LINE-TO-LINE SPACING.** Standard six lines per inch (8, 10, 12 optional).

**LINE STRAIGHTNESS.** Less than 0.010 inches individual character deviation from a straight line drawn parallel to the line of characters.

**STORAGE BUFFER CAPACITY.**

Model A—One line  
Model B—Five lines  
Model C—Ten lines  
Model D—Fifteen lines  
Model E—Twenty lines

**PAPER SKIP FEED.** Twenty-five inches per second on M360 and M600. Thirty-five inches per second on M1000.

**PAPER FEED.** Upper and lower pairs of tractors, accurately controlled by direct-coupled motor drive.

**PAPER DIMENSIONS.** Standard, edge punched ( $\frac{1}{2}$  inch hole centers) fanfold paper up to nineteen inches wide and twenty-two inches long.

**PAPER CAPABILITY.** Up to six parts 12 lb. bond, with single shot carbon or tabulating card (0.007 inches) plus second record sheet.

**HORIZONTAL ALIGNMENT.** Manual controls for positioning paper any place within nineteen inch feed area. Vernier controls for adjusting paper to  $\pm 1$  character during operation.

**VERTICAL ALIGNMENT.** Vernier control up to  $\pm 1$  line while operating.

**PAPER LOADING.** Print drum housing pivots forward permitting fast, easy paper loading.

**FORMS CONTROL.** Paper tape loop, punched to control forms printing.

**MAGNETIC TAPE.** One-half inch tape on IBM reels.

**MAGNETIC TAPE SPEED.** 36 inches per second.

**MAGNETIC TAPE DATA FORMAT.** IBM 729 (IBM 360 optional) blocked to conform with buffer size.

**MAGNETIC TAPE RECORDING DENSITY.** 200/556 or 556/800 bits per inch.

**MAGNETIC TAPE LOADING.** Semi-automatic.

**MAGNETIC TAPE HANDLING.** Vacuum column tape buffers supply low inertia and constant tension to tape drive system to minimize tape flexing and tape wear.

**MAGNETIC TAPE CLEANING.** Vacuum tape cleaners to remove dust and loose oxide particles.

**ERROR DETECTION.** Parity checked during all data transfers.

**TAPE DATA ERRORS.** Error indicated; no printing takes place.

**LINE/PRINTER DATA ERRORS.** Error indicated; only valid characters printed.

**AUTOMATIC PARITY RESET (OPTIONAL).** Detection of parity error causes automatic tape backspace and reread. This is repeated until error is cleared or four attempts made.

**LONGITUDINAL PARITY CHECK (OPTIONAL).** Longitudinal parity is generated and monitored during entire operation.

**OVERFLOW (OPTIONAL).** Senses and indicates if more than 120 (132) print characters have been sent in one line.

**SPECIAL CODES (OPTIONAL).** Customer selected code representations rather than the standard may be provided.

**SELECTIVE PRINT (OPTIONAL).** Allows selective printing of blocks from tape based on content of five-character identifier.

**POWER.** 115 V.A.C., 60 cycles, 1900 watts peak, 1600 watts average.

**WEIGHT.** Magnetic Tape Unit—400 pounds; LINE/PRINTER—835 pounds.

**DIMENSIONS.** LINE/PRINTER: Height—48 inches; Width—47 inches; Depth—26 inches. Magnetic Tape Unit: Height—45 inches; Width—33 inches; Depth—26 inches.

**COLOR.** Light grey, dark grey, medium blue with trim of brushed aluminum; other colors optional.



*data products corporation*

# PAPER TAPE TO LINE/PRINTER OFF-LINE PRINTING STATION SUMMARY OF CHARACTERISTICS

**SPEEDS** Model P360 —360 lines per minute  
Model P600 —600 lines per minute  
Model P1000 —1000 lines per minute

**PRINT CHARACTERS.** Standard print font and character sets available, including FORTRAN set, IBM 1400 series, and upper and lower case combinations; other character sets optional.

**PRINT QUALITY.** Suitable for personalized letters and for optical reading applications.

**CHARACTERS PER LINE.** Standard 120 or 132 (84, 96, 108 optional).

**HORIZONTAL SPACING.** Ten characters per inch.

**LINE-TO-LINE SPACING.** Standard six lines per inch (8, 10, and 12 optional).

**LINE STRAIGHTNESS.** Less than 0.010 inches individual character deviation from a straight line drawn parallel to the line of characters.

**STORAGE BUFFER CAPACITY.** Model A—One line  
Model B—Two lines

**PAPER SKIP FEED.** Twenty-five inches per second on P360 and P600. Thirty-five inches per second on P1000.

**PAPER FEED.** Upper and lower pairs of tractors, accurately controlled by direct-coupled motor drive.

**PAPER DIMENSIONS.** Standard, edge punched ( $\frac{1}{2}$  inch hole centers) fanfold paper up to nineteen inches wide and twenty-two inches long.

**PAPER CAPABILITY.** Up to six parts 12 lb. bond, with single shot carbon or tabulating card (0.007 inches) plus second record sheet.

**HORIZONTAL ALIGNMENT.** Manual controls for positioning paper any place within nineteen inch feed area. Vernier controls for adjusting paper to  $\pm 1$  character during operation.

**VERTICAL ALIGNMENT.** Vernier control up to  $\pm 1$  line while operating.

**PAPER LOADING.** Print drum housing pivots forward permitting fast, easy paper loading.

**FORMS CONTROL.** Paper tape loop, punched to control forms printing.

**PAPER TAPE.** 11/16 inch, 7/8 inch or 1 inch.

**PAPER TAPE READING SPEED.** 150 characters per second (500 and 1000 optional).

**PAPER TAPE DATA FORMAT.** 5, 6, 7 or 8 channel punched to EIA standard RS227.

**PAPER TAPE RECORDING DENSITY.** 10 characters per inch.

**PAPER TAPE SPOOLER (OPTIONAL).** A coupled paper tape spooler may be provided.

**ERROR DETECTION.** Parity checked during all data transfers.

**TAPE DATA ERRORS.** Error indicated; no printing takes place.

**LINE/PRINTER DATA ERRORS.** Error indicated; only valid characters printed.

**LONGITUDINAL PARITY CHECK (OPTIONAL).** Longitudinal parity is generated and monitored during entire operation.

**OVERFLOW (OPTIONAL).** Senses and indicates if more than 120 (132) print characters have been sent in one line.

**SPECIAL CODES (OPTIONAL).** Customer selected code representations rather than the standard may be provided.

**SELECTIVE PRINT (OPTIONAL).** Allows selective printing of blocks from tape based on contents of five-character identifier.

**POWER.** 115 V.A.C., 60 cycles, 1150 watts average.

**WEIGHT.** LINE/PRINTER 835 pounds.  
Paper Tape Unit 300 pounds.

**DIMENSIONS.** LINE/PRINTER: Height 48 inches;  
Width 47 inches; Depth 26 inches.  
Paper Tape Unit: Height 45 inches;  
Width 33 inches; Depth 26 inches.

**COLOR.** Light grey, dark grey, medium blue with trim of brushed aluminum; other colors optional.



*data products corporation*

**HEADQUARTERS:**

8535 WARNER DRIVE / CULVER CITY / 90231  
TELEPHONE: (213) 837-4491  
CABLE: DATAPRO / CULVER CITY  
TELEX: 674734

**INTERNATIONAL OFFICE:**

ATOM BLDG / SCHIPHOL AIRPORT / AMSTERDAM / THE NETHERLANDS  
TELEPHONE: (020) 156297  
CABLE: DATAPRO / AMSTERDAM  
TELEX: 13211





July 27, 1966

Mr. T. Nelson  
P. O. Box 1546  
Poughkeepsie, New York

Gentlemen:

Thank you for your recent inquiry regarding the Data Products Magnetic Tape-to-Print Off-Line Print Station. The enclosed brochure gives general specification information.

These systems are available for purchase or for rent. Sale prices range from \$43,750 to \$49,875 for basic 132 column, 64 character font systems. Corresponding rental prices range from \$1120 to \$1340 per month including maintenance. Extended font capabilities of 86 or 96 character and block buffer provisions add nominally to these prices.

We would be pleased to provide specific specification and price information for a system for your application.

We look forward to hearing from you.

Very truly yours,

A handwritten signature in dark ink, appearing to read 'W. Drake', with a long, sweeping horizontal flourish extending to the right.

Willis K. Drake  
General Manager  
Special Products Division

/njp

Enc.